What is claimed is:

5   1. A method for arbitrating a resource comprising:

setting n weight values for n bidders;

setting n accumulator values for n bidders; and

granting one of the n bidders to receive access to the resource based at least in part on

the accumulator value, and then decrementing the selected bidder's accumulator value.

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2. The method of claim 1 further comprising adjusting the accumulator values of the

remaining bidders based at least in part on the range of values.

3. The method of claim 1 wherein the weight values are initially set according to a

priority of the bidder.

15   4. The method of claim 1 wherein the accumulator values are initially set to a midpoint of

a range.

5. The method of claim 2 wherein the range of values is based on a quartile, the

accumulator value is incremented by one if the accumulator value is within 76-99% of the

20   range, the accumulator value is incremented by two if the accumulator value is within 51-

75% of the range, the accumulator value is incremented by three if the accumulator value

is within 26-50% of the range, the accumulator value is incremented by four if the

accumulator value is within 0-25% of the range.

6. An apparatus to arbitrate access to a resource comprising:

a plurality of n accumulators to each receive a request to the resource;

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a comparator, coupled to the plurality of accumulators, to grant access to one of the

requests based at least in part on the past history of granted requests.

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7. The apparatus of claim 6 wherein the comparator decrements a weight value of the

accumulator that was granted access to their request.

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8. The apparatus of claim 6 wherein the past history of granted requests is based on the

accumulator's value being incremented if it was not granted access and is based on a

quartile analysis as follows:

20   the accumulator value is incremented by one if the accumulator value is within 76-99% of

the range, the accumulator value is incremented by two if the accumulator value is within

51-75% of the range, the accumulator value is incremented by three if the accumulator

value is within 26-50% of the range, the accumulator value is incremented by four if the

accumulator value is within 0-25% of the range.

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9. The apparatus of claim 7 wherein the weight value for each accumulator is initially set

according to a priority of the request.

10. The apparatus of claim 9 wherein the request is from a bidder.

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11. The apparatus of claim 10 wherein the bidder is either one of a modem, keyboard,

video controller, serial port, or PCMCIA card, SONET interface, Ethernet

Interface, content processor, encryption device, or compression device.

12. The apparatus of claim 6 wherein the resource may be an interconnect bus,

5   memory unit, or output buffer.

13. The apparatus of claim 11 wherein for a peer-to-peer communications system, the

bidder is also a resource.

10   14. The apparatus of claim 6 wherein the apparatus is a chipset.

15. An article comprising a medium storing instructions that, when executed result
in:

arbitrating a resource among a plurality of bidders setting accumulator values for the

15   plurality of bidders; and

granting one of the n bidders to receive access to the resource based at least in part on

the accumulator value, and then decrementing the selected bidder's accumulator value.

16. The article of claim 15 further comprising setting weight values for the plurality of

20   bidders.

17. The article of claim 15 wherein the weight values are initially set to a priority of each of the

plurality of bidders.

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